

Appendix A. Permit Terms

This section includes standard, modified standard, special and mandatory terms specifically designed to minimize environmental impacts of this project. It also includes terms agreed upon by the applicant and protestants in order to resolve outstanding protests to the application. Issuance of a Mitigated Negative Declaration is dependant on the applicant accepting these terms. The following permit terms, substantially as written, shall be included in any permit issued pursuant to Application A030946:

Standard Permit Terms

- **Construction Completion and Use.** Construction work and complete application of the water to the authorized use shall be prosecuted with reasonable diligence and completed by December 31, 2020. (0000009)
- **Cultural Resources.** Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and a professional archeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Deputy Director for Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director for Water Rights. (0000215)
- **Human Remains.** If human remains are encountered, then the Applicant shall comply with Section 15064.5 (e) (1) of the CEQA Guidelines and the Health and Safety Code Section 7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the county coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the Native American Heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance, in the vicinity of the find, shall not resume until the process detailed under Section 15064.5 (e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights. (0380500)
- **Riparian Term.** Based on the information contained in the Division's files, riparian water has not been used on the place of use. Diversion of water is not authorized under this permit if in the future the Permittee diverts water under riparian right. With the Deputy Director for Water Right's approval, Permittee may use water under basis of riparian right on valid lands within the authorized place of use, provided that Permittee submits reliable evidence to the Deputy Director for Water Rights quantifying the amount of water that Permittee likely would

have used under the basis of riparian right absent the appropriation authorized by this permit. The Deputy Director for Water Rights is hereby authorized to approve or reject any proposal by Permittee to use water under the basis of riparian right on the place of use authorized by this permit.

(0000063)

- **Other Agency Permits.** Permittee shall obtain all necessary federal (including United States Army Corps of Engineers Section 404), state and local agency permits required by other agencies prior to construction and diversion of water. Copies of such permits and approvals shall be forwarded to the Deputy Director for Water Rights.

(000000J)

Modified Standard Permit Terms

- **Quantity, Direct Diversion.** The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a maximum instantaneous rate of 0.058 cubic foot per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 42 acre-feet per year.
- **Measuring Device for Bypass.** Permittee shall document Big Sur River flows to meet bypass requirements by monitoring USGS Stream Gage #1114300 in Pfeiffer-Big Sur State Park. If this gage is rendered inoperable, permittee shall be responsible for repair and maintenance of said gage unless/until another agency or party accepts responsibility. Permittee shall implement all provisions of the Application A030946 flow bypass compliance plan dated June 10, 2008 on file with the Division.
- **Measuring Devices-Direct Diversion.** Permittee shall install and maintain devices satisfactory to the Division to measure the instantaneous rate of diversion and cumulative quantity of water diverted under this permit. A record of such measurements shall be maintained by the permittee, and made available to interested parties upon reasonable request. This flow and diversion data shall be maintained for the life of the project and submitted to the Division with the Progress Report by Permittee and to the California Department of Fish and Game upon reasonable request.

(000000RM)

Special Permit Terms

- **Fish and Wildlife Bypass.** The rate of diversion shall be restricted during low Big Sur River flows to less than 1% of the gauged flow measured by the United States Geological Survey stream gauge 11143000 located in Pfeiffer-Big Sur State Park, in accordance with the Application A030946 flow bypass compliance plan dated June 10, 2008 on file with the Division . When the gauged flow is equal to or below 3 cfs, the entire flow of the Big Sur River will be bypassed and no water diverted under this permit. Permittee shall also limit diversions as follows:
 - When the gauged flow is greater than 3 cfs and less than or equal to 4 cfs, the

- diversion shall not exceed a maximum 24 hour average rate of 0.03 cfs.
 - When the gauged flow is greater than 4 cfs and less than or equal to 5 cfs, the diversion shall not exceed a maximum 24 average hour rate of 0.04 cfs.
 - When the gauged flow is greater than 5 cfs and less than or equal to 6 cfs, the diversion shall not exceed a maximum 24 hour average rate of 0.05 cfs.
 - When the gauged flow is 6 cfs and greater, the well diversion rate will be the pump's maximum capacity of 0.058 cfs.
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- **Noise Reduction.** In order to reduce noise impacts, the pumps and pump house shall be insulated with noise reduction materials within 120 days of permit issuance.
(0400999)
 - **Reserved Jurisdiction.** The State Water Board reserves jurisdiction over this permit to modify, delete, or add minimum flow requirements or related criteria for the protection of fish and wildlife and the maintenance of recreation in the Big Sur River should (1) additional fishery studies be conducted in the Big Sur River, or (2) unforeseen adverse impacts occur to the fishery or recreation in the Big Sur River. Action by the Board will be taken only after notice to interested parties and opportunity for hearing.
 - **Protection of Instream Resources.** To protect instream resources, any and all diversion shall occur from the existing subterranean well. There shall be no direct diversion from surface water flow of the Big Sur River under the exercise of any basis of right. Any device or contrivance which prevents, impedes, or tends to prevent or impede the passage of aquatic resources upstream or downstream shall be prohibited as a means to divert or store water.

Mandatory Permit Terms

- **Reduction in License.** The amount authorized for appropriation may be reduced in the license if investigation warrants.
(0000006)
- **Progress Reports.** Progress reports shall be submitted promptly by Permittee when requested by the State Water Board until a license is issued.
(0000010)
- **Access to Project.** Permittee shall allow representatives of the Division and other parties, as may be authorized from time to time by the Division, reasonable access to project works to determine compliance with the terms of this permit.
(0000011)
- **Continuing Authority.** Pursuant to California Water Code sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any

license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of Permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by the Permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

- **Water Quality Objectives.** *The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Board if, after notice to the Permittee and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.*

(0000013)

- **Endangered Species.** *This permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the*

project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit.

(0000014)

- **Water Diversion and Use Records.** Permittee shall maintain records of the amount of water diverted and used to enable State Water Board to determine the amount of water that has been applied to beneficial use pursuant to Water Code section 1605.

(0000015)

- **Stream Alteration Agreement.** No work shall commence and no water shall be diverted, stored or used under this permit until a copy of a stream or lake alteration agreement between the State Department of Fish and Game and the Permittee is filed with the Division. Compliance with the terms and conditions of the agreement is the responsibility of the Permittee. If a stream or lake agreement is not necessary for this permitted project, the Permittee shall provide the Division a copy of a waiver signed by the State Department of Fish and Game.

(0000063)

APPENDIX B. REVISED WAA/CFII REPORT

TO: Chief, Division of Water Rights, State Water Resources Control Board

SUBJECT: WATER AVAILABILITY ANALYSIS (WAA) FOR APPLICATION 30946 OF CLEAR RIDGE MUTUAL WATER ASSOCIATION, INC.

DATE: 10 June 2009

1.0 INTRODUCTION

The purpose of this report is to summarize the results of the water availability analysis conducted for the subject application located within the Big Sur River watershed in Monterey County. The objectives of the analysis are as follows:

- To provide information required under California Water Code section 1275 (a), 1375 (d), 1243, 1243.5 and California Code of Regulations, Title 23, section 782, to demonstrate whether water is available for appropriation; and
- To determine the impact of the applications/project on stream flow in order to evaluate potential impacts to Public Trust Resources and provisions for compliance with various federal and state requirements. Examples include the California Environmental Quality Act (CEQA), the California Endangered Species Act (CESA), California Fish and Game Code and the federal Endangered Species Act (ESA).

2.0 PROJECT DESCRIPTION

Clear Ridge Mutual Water Association, Inc. (Association) serves 42 residences located on Pfeiffer Ridge and Clear Ridge in the Big Sur area of Monterey County. The Association's source of water is underflow of the Big Sur River. The water is extracted through a 26-foot deep well situated 80 feet from the center of the river on APN 419-201-021. The nominal pumping rate from this well is 0.05 cubic feet per second (cfs) or about 23 gallons per minute (gpm). The Association is requesting the right to withdraw up to 42 acre-feet (af) annually (afa). The most intense water use occurs from June to October. The Association's service area is outside of the drainage area of the Big Sur River.

The Association has utilized the present source since 1972. The quarterly and annual water usages for recent years are shown in Table 1. The Association previously claimed this water on the theory that it was groundwater. Eventually the State Water Resources Control Board (Board) made a determination that the water was underflow of the Big Sur River. That explains why the Association is now seeking a water right to Big Sur River Water.

Figures 1a and 1b (attached) show the location of the Big Sur watershed, the project's point of diversion, and other features in the area, particularly the diversion points of other water users and the Points of Interest selected by the California Department of Fish and Game.

The project is located in Monterey County approximately 26 miles south of the city of Carmel. The application seeks authorization to directly divert up to 42 af of water into an existing offstream storage tank and distribution system annually. Application 30946 requests direct diversion for the purposes of domestic supply. The Association serves 42 parcels. The nominal average annual allotment per parcel is 1 af (325,829 gallons). The rate of diversion is currently limited to less than 42 af per year by the capacity of the pump. Moreover, the rate of diversion will be further restricted according to the rate of flow in the Big Sur River measured at USGS gauge 11143000 (Big Sur River at Big Sur, CA).

The schedule of restrictions is such that the 24-hour average pumping rate from the river will never be as great as 1% of the gauged flow. Since the current pump has a maximum output of 25 gpm (0.055 cfs) the restriction is only pertinent to gauged flows of 6 cfs or less. When the gauged river flow is equal to or less than 3 cfs no pumping will occur. When the gauged river flow is above 3 cfs but equal to or below 4 cfs the 24-hour average rate of diversion will be 13.5 gpm (0.030 cfs). For gauged flows above 4 cfs and equal to or less than 5 cfs the 24-hour average rate of withdrawal will be 18 gpm (0.040 cfs). For gauged flows above 5 cfs and equal to or less than 6 cfs the 24-hour average rate of withdrawal will be 22.4 gpm (0.050 cfs). The practical limits set by the scheduled restrictions and the capacity of the pump are shown in Table 2.

Table 1
Quarterly Water Usage for 2003, 2004, and 2005 (Acre Feet)

	2003	2004	2005
1st Quarter	2.5	2.48	2.55
2nd Quarter	3.47	5.92	3.47
3rd Quarter	4.13	4.94	4.32
4th Quarter	2.22	2.77	3.33

Annual Total	12.32	16.11	13.67
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Table 2. Implications of Schedule of Restrictions

Gauged Flow (cfs)	Diversion Allowed (gpm)	Monthly Totals	
		acre feet	gallons
0 to 3	0	0	0
3 to 4	13.5	1.8	583,200
4 to 5	18	2.4	777,600
above 5	22.4	3.0	967,680

2.1 Points of Interest (POI)

POI #1: The point on the Big Sur River immediately below point of diversion (POD).

POI #2: The point on the Big Sur River immediately below Water Permit SO15408 as shown on Figure 1.

POI #3: The point on the Big Sur River immediately above tidal influence or the transition point from brackish to freshwater below the “old well” of WA30166 as shown on Figure 1.

3.0 METHODS

Streamflow was estimated based on a proration of areas using the following formula:

$$Q_2 = Q_1 \times (A_2/A_1) \times (I_2/I_1)$$

Where: Q_2 = Daily flow (cfs) at point of interest on tributary watershed;

Q_1 = Daily flow (cfs) at gauge 1143000;

A_2 = Watershed area above point of interest;

A_1 = Watershed area above gauge 1143000;

I_2 = Precipitation at point of interest; and

I_1 = Precipitation on watershed above gauge 1143000.

The required tributary watershed areas were estimated in AutoCad using an electronic version of the USGS 7.5-minute topographic sheet. The USGS gauge 11143000 (Big Sur River Near Big Sur, CA) provided daily average flow rates in the Big Sur River about 3 miles upstream of the diversion point. This gauge has a continuous record of stream flow data back to 1950. Annual average precipitation was assumed to be 40 inches on the portion of the watershed below the gauge and 55 inches on the portion of the watershed above the gauge. This information is based on precipitation data obtained from the Western Regional Climatic Center (WRCC) for the Big Sur State Park (Station Number 040790) and the Big Sur Protected Waterway Management Plan³. The watershed area above gauge 11143000 is stated by the USGS to be 46.5 square miles. The watershed area above the diversion point for this application (and, therefore, above POI #1) and below the USGS gauge is 7.24 square miles. The watershed area between the diversion point and POI #2 is 3.46 square miles. The watershed area between POI #2 and POI #3 is 0.32 square miles.

4.0 ANNUAL UNIMPAIRED FLOW

Annual unimpaired flow is the total volume of water, on average, that would flow past a particular point of interest on an annual basis if no diversions (impairments) were taking place in the watershed above that point. The watershed area above gauge 11143000 has no impairments and it is large compared to the incremental watershed areas of points of interest downstream from it. Furthermore, the assumption that runoff per unit area and runoff per unit of precipitation are the same above and below the gauge is consistent with characteristics of the watershed areas. Therefore the drainage area-ratio method is well suited for determining the annual unimpaired flow at each POI.

4.1 Data and Assumptions

The gauge referred to in every instance is the USGS gauge 11143000, Big Sur River at Big Sur, CA. The drainage area above this gauge is 46.5 square miles and is pristine, so the discharge recorded by the gauge is assumed to be unimpaired flow. The USGS considers the average annual precipitation on the drainage area to be 55 inches. The flow parameter used to represent the gauge is the mean annual flow for the 54-year record, 74,304 acre feet. This is equivalent to about 55% of precipitation. The gauge data are represented in Table 3 by the monthly averages of average daily discharge for each month in the period of record.

Estimates of unimpaired annual flow at the various POIs are listed in Table 4. The discharge at a particular point of interest downstream of the gauge is equal to the discharge at the gauge plus the discharge from the tributary area between the gauge and the point of interest. The discharge from the tributary area is found by proration of areas and precipitation rates. There is no isohyetal map for the area. The drainage area between the gauge and the mouth of the river is so situated that it's likely to be within a rain

³ County of Monterey. 1986. *Big Sur River Protected Waterway Management Plan*

shadow. It was assumed, therefore, that the average annual precipitation on the portions of the drainage area down stream from the gauge is 40 inches.

Therefore precipitation on drainage areas of interest below the gauge is 73% (40/55) of that on the watershed above the gauge. It is also assumed that the runoff characteristics of the drainage areas below the gauge are the same as on the watershed above the gauge.

4.2 Calculations

The flow at a given POI is the sum of the flow at the gauge and the runoff from the area between the gauge and the POI. The runoff from an area below the gauge is based on a proration of areas and a proration of precipitation. Precipitation on the watersheds below the gauge is estimated to average 40 inches per year while precipitation on the watershed above the gauge is estimated to average 55 inches per year. Therefore:

$$\text{Flow at POI} = \text{Flow at gauge} + \text{flow generated in area between gauge and POI}$$

$$\begin{aligned} \text{POI 1: } &= 74,304 + (74,304 \times (7.24/46.5) \times (40/55)) \\ &= 82,731 \end{aligned}$$

$$\begin{aligned} \text{POI 2: } &= 74,304 + (74,304 \times (10.70/46.5) \times (40/55)) \\ &= 86,728 \end{aligned}$$

$$\begin{aligned} \text{POI 3: } &= 74,304 + (74,304 \times (11.02/46.5) \times (40/55)) \\ &= 87,107 \end{aligned}$$

Table 4. Annual Mean Unimpaired Flow at Points of Interest

POI ID	POI Description	USGS Gauge	Gauged Flow (af/year)	Area Between Gauge and POI (mi^2)	Precipitation Ratio	Flow at POI (af/year)
1	Adjacent to CRM/WA well SO15408	111430004	74,3045	7.24	40/55	82,731
2	Below water permit	11143000	74,304	10.70	40/55	86,728
3	Transition point from brackish to freshwater	11143000	74,304	11.02	40/55	87,107

4.3 Unimpaired Flow During February

The February median discharge at the gauge is 120 cfs for the period of record. Table 5 shows the prorated median February discharge at the various points of interest.

Table 5. Median February Discharge (cfs) at Points of Interest

POI ID	POI Description	Gauged Flow (cfs)	Area Between Gauge and POI (m^2)	Precipitation Ratio	Flow at POI (cfs)
1	Adjacent to CRMWA well	120	7.24	40/55	134
2	Below water permit SO15408	120	10.70	40/55	140
3	Transition point from brackish to freshwater	120	11.02	40/55	141

4. USGS Gauge 11143000 Rio Sur River Near Rio Sur Ca April 1 1950 to Dec 31, 2003

5 Mean for 54 years of record

4.4 Unimpaired Flow for the Period December 15 to March 31

One of the specified assessment methods (CFII, discussed below) requires the comparison of demand during the period October 1 to March 31 with unimpaired flow during the period December 15 to March 31. Unimpaired flow during a specified season (e.g. December 15 to March 31) is the total volume of water, on average, that would flow past a selected point of interest during the season if no diversions (impairments) were taking place in the watershed above that point. Flow is measured in units of acre-feet.

4.4.1 Data and Assumptions

The source of data is USGS Gauge 11143000, but for this calculation the long-term average daily discharge in each month of the period is used to arrive at the gauged flow. The unimpeded flow at each POI is based on the same proration of areas and precipitation as was used to estimate the annual mean unimpaired flow. The calculations are shown in Table 6.

Table 6. Unimpaired Flow at Points of Interest: December 15 to March 31

<i>POI ID</i>	<i>POI Description</i>	<i>USGS Gauge</i>	<i>Gauged Flow (af/period)</i>	<i>Area Between Gauge and POI (mi²)</i>	<i>Precipitation Ratio</i>	<i>Flow at POI (af/period)</i>
1	<i>Adjacent to CRM/WA well</i>	11143000 ⁶	47,254	7.24	40/55	52,605
2	<i>Below water permit SO15408</i>	11143000	47,254	10.70	40/55	55,162
3	<i>Transition point from brackish to freshwater</i>	11143000	47,254	11.02	40/55	55,399

⁶ USGS Gauge 11143000, Big Sur River Near Big Sur Ca, April 1, 1950 to Dec 31, 2003

5.0 UNIMPAIRED FLOW DURING THE LOW FLOW SEASON

Unimpaired flow during the low flow season (April to October) is the total volume of water, on average, that would flow past a selected point of interest during the period of low flow if no diversions (impairments) were taking place in the watershed above that point. Flow is measured in units of acre-feet.

5.1 Data and Assumptions

The minimum average daily flow recorded at gauge 11143000 for each month of the low flow season are shown in Table 7 along with the average flow for each month.

Table 7. Minimum and Average Daily Flow (cfs) During Low Flow Season

Month	Number of Data Points	Minimum Average Daily Flow (cfs)	Average Flow (cfs)
April	1650	7.5	140
May	1705	6.7	66.9
June	1650	4.6	36.9
July	1,705	4.5	23.7
August	1,674	2.6	17.5
September	1,650	2.6	15.3
October	1,674	2.6	17.5

August is the month most likely to experience extreme low flow. The one-percentile daily average flow rate for August is 3.4 cfs, i.e. one percent of all recorded August average daily flow rates at gauge 11143000 were 3.4 cfs or less. (The one-percentile values for September and October were 4.3 and 4.5 cfs respectively.) The points of interest downstream of the gauge are assigned somewhat higher rates of unimpaired flow on the assumption that the stream gains base flow in proportion to drainage basin area. Table 8 gives the estimated mean unimpaired flows at the POIs in acre-feet for each of the low flow months. These estimates will be compared with the corresponding monthly demands to provide an additional CFII assessment.

Table 8. Unimpaired Mean Flow (af/mo) at each POI During the Low Flow Months

	April	May	June	July	August	September	October
POI 1	9274	4432	2444	1570	1159	1014	1159
POI 2	9725	4647	2563	1646	1216	1063	1216
POI 3	9766	4823	2574	1708	1261	1067	1261

5.2 Calculations

$$\begin{aligned}
 \text{POI 1 in April: } & \text{Flow at POI} = \text{Flow at gauge} + \text{flow generated in area between gauge and POI} \\
 & = 140 + (140 \times (7.24/46.5) \times (40/55)) \\
 & = 155.85 \text{ cfs} = 155.85 \times 86400 \times 30/43560 = 9274 \text{ af/mo} \\
 \text{POI 2 in June: } & = 36.9 + (36.9 \times ((7.24+3.46)/46.5) \times (40/55)) \\
 & = 43.08 \text{ cfs} = 43.08 \times 86400 \times 30/43560 = 2563 \text{ af/mo} \\
 \text{POI 3 in September: } & = 15.3 + (15.3 \times ((7.24+3.46+0.32)/46.5) \times (40/55)) \\
 & = 17.94 \text{ cfs} = 17.94 \times 86400 \times 30/43560 = 1067 \text{ af/mo}
 \end{aligned}$$

6.0 BYPASS FLOW

The bypass flow is the minimum flow rate to be maintained past a project's point of diversion, in units of cubic feet per second (cfs). The appropriate bypass is developed on a case-by-case basis. For this project the rate of diversion (0.055 cfs) is less than the measurement error inherent in the stream flow data, which is assumed to be on the order of a few tenths of a cfs at the lowest flows measured and much more at higher flows.

The diversions for which a water right permit is sought have been conducted for thirty-five years. Recent reports of the Department of Fish and Game (as described in the Biology Report submitted in connection with Application A030116, El Sur Ranch) describe the steelhead fishery as healthy (Biology Report, pp. 21-1 to 21-3 (excerpt from Titus, R. G., D. C. Erdman and W.M. Snider. "History and status of steelhead in California coastal drainages south of San Francisco Bay"). Over summering survival and growth of steelhead were among the highest in California coastal streams. [Biology Report, pp. 5-3 to 5-4, 6-1, and Fig. 81, p. 8-52] The Hydrologic Report presents data substantiating the availability of flows during a low-flow year. Temperatures remained suitable for steelhead and stream continuity was never disrupted [Biology Report p. 6-1].

Considering that the requested diversion rate is less than the uncertainty in the measurement of the unimpeded flow past the project's point of diversion; and considering that the fish habitat near the point of diversion has remained in satisfactory condition while coexisting with the diversion for thirty-five years, it must be found that by pass flows past the point of diversion are adequate with or without the diversion sought.

5 7.0 CUMULATIVE FLOW IMPAIRMENT INDEX (CFII)

5 Data Analysis

Pursuant to CEQA, CESA and ESA, the Division is required to evaluate cumulative impacts to natural hydrology. The CFII is an index that is used to evaluate the cumulative flow impairment demand of all existing and pending projects in a watershed of interest. The CFII is a percentage obtained by dividing **Demand** in acre-feet by **Supply** in acre-feet at a specified POI⁵, and for a specified time period, where:

Demand is the “face” value entitlements of all existing and pending water rights, under all bases of right, above the POI in acre-feet, using the Division’s Water Rights Information Management System (WRIMS) database and water right files (See Appendix A). The guidelines specify basing calculations on data pertinent to the season from October 1 through March 31 and this was done. It was seen that the demands under consideration in this application are small compared to the supply available in that season. To be more conservative, the CFII calculations were also performed for each of the low flow months to show the impact of high demand coupled with low supply; and

Supply, according to the guidelines is the mean unimpaired flow above the POI in acre-feet during the period December 15 to March 31 (Table 6). In each of the low flow months mean unimpaired flow above the POI was used in comparison with the corresponding demand (Table 8).

5 October-March Assessment

Based on the WRIMS database and assuming the October 1 to March 31 usage is 50 percent of the total annual entitlements, water rights above the POIs are estimated to be 129.54 af for POI 1; 138.34 af for POI 2; and 163.34 af for POI 3. A pending senior application above POI 3 for an absolute annual limit of 1615 acre feet with a twenty-year average diversion of 1200 acre feet must also be considered. Diversions under this application are for irrigation, so that the October-March diversions are unlikely to reach 50 percent of the total annual diversion. The applicant has estimated their October-March irrigation diversion requirement as 269 acre

⁵ Points of interest (POIs), are designated by Division staff in consultation with DFG.

feet. Using this figure as well as existing diversions the October to March water rights above POI 3 are estimated as 432.34 af. (See Appendix A). The total unimpaired water available during the December 15 to March 31 period at the various POIs were estimated to be 52,605 af for POI 1; 55,162 af for POI 2; and 55,399 for POI 3. The CFII values were estimated as shown in the following examples:

$$\begin{aligned} \text{CFII @ POI 1} &= \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 129.54 \div 52,605 \times 100\% \\ &= 0.25\%; \end{aligned}$$

$$\begin{aligned} \text{CFII @ POI 2} &= \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 138.34 \div 55,162 \times 100\% \\ &= 0.25\%; \end{aligned}$$

$$\begin{aligned} \text{CFII @ POI 3} &= \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 163.34 \div 55,399 \times 100\% \\ &= 0.29\%. \end{aligned}$$

If pending applications are considered, the CFII at POI 3 has a different value:

$$\begin{aligned} \text{CFII @ POI 3} &= \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 432.34 \div 55,399 \times 100\% \\ &= 0.78\% \end{aligned}$$

CFII Assessment for the Low Flow Months

The WRIMS database provides annual or seasonal rather than monthly diversion rates so an assumption about monthly usage is required. For this assessment it is assumed that 10 percent of the total annual entitlements are diverted in each of the low flow months. Thus, the monthly water rights above the POIs are estimated to be 33.67 acre-feet for POI 1; 35.43 for POI 2; and 40.43 for POI 3. (See Appendix A). The total unimpaired water available during these months at the POIs are presented in Table 8. The corresponding CFII values were estimated as shown in the following examples:

$$\text{CFII @ POI 1 in April} = \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 33.67 \div 9274 \times 100\% = 0.36\%;$$

$$\text{CFII @ POI 2 in June} = \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 35.43 \div 2563 \times 100\% = 1.38\%;$$

$$\text{CFII @ POI 3 in September} = \text{Demand (af)} \div \text{Supply (af)} \times 100\% = 40.43 \div 1067 \times 100\% = 3.79\%.$$

Table 9 lists the computed CFII's for all of the POIs in each of the low flow months.

Table 9. CFII at all POIs During the Low Flow Months (%)

	April	May	June	July	August	September	October
POI 1	0.36	0.76	1.38	2.14	2.91	3.32	2.91
POI 2	0.36	0.76	1.38	2.15	2.91	3.33	2.91
POI 3	0.41	0.84	1.57	2.37	3.21	3.79	3.21

POI 3 is downstream of a pending application (A030166) for a diversion of 1,615 af/a. This application is represented in the WRIMS database by three different ID numbers (A030166, S014132, and S014133). The calculations here are based on the potential diversion under only one of these applications. The application as currently amended specifies the monthly irrigation diversion requirement. The CFII at POI 3 would be different if that application is granted. With the supply based on Table 8 and the demand of the pending application based on the applicant's estimated monthly irrigation requirement the CFII in the low flow months would be as shown in Table 10.

Table 10. CFII at POI 3 if A03166 is Granted

	April	May	June	July	August	September	October
Supply	9766	4823	2574	1708	1261	1067	1261
A030166	116	146	189	193	167	163	120
Demand							
Upstream	40.43	40.43	40.43	40.43	40.43	40.43	40.43
Demand							
CFII	1.60	3.87	8.91	13.67	16.45	19.07	12.72

Conclusions Concerning Water Availability

This application seeks authority to divert up to 4 af of water during September when the expected amount of water passing the diversion point, after diversions by existing permitted up-stream water users, averages 976 af. Currently permitted down-stream water users divert 1.8 af of water during September. The amount of water requested is very small relative to the average supply. The applicant doesn't currently take this much water and doesn't have the equipment to take it if it were allowed. Moreover, the applicant is agreeable to there being a condition to the permit to the effect that the rate of diversion will be restricted according to the rate of flow in the Big Sur River measured at USGS gauge 11143000 (Big Sur River at Big Sur, CA). The schedule of restrictions is such

APPENDIX B

that the instantaneous pumping rate from the river will never be as great as 1% of the gauged flow. Since the current pump has a maximum output of 25 gpm (0.055 cfs) the restriction is only pertinent to gauged flows of 6 cfs or less.

There is adequate water available in the Big Sur River at all times of the year to sustain the diversion requested by Clear Ridge Mutual Water Association, while respecting the rights of existing water users and protecting other beneficial in stream uses.

APPENDIX A
Demand above POI 3

Case A (A or B)

Water Right ID	Source	Direct Diversions Rate (cfs)	Direct Diversions Season	Adjusted Direct Diversion Amount Sep 1-Sep 30 (af) ¹	Face Value Storage Amount (af)	Storage Season	Adjusted Storage Amount Oct. 1-Mar. 31 (af)	Cumulative Adjusted Diversion Amount Oct. 1-Mar. 31 (af) ²	Purpose of Use Code ³
A031432	Big Sur River underflow	0.077	Jan-Dec	5	0	No storage	No storage	25.0	D, I
S015408	Big Sur River	0.05	Jan-Dec	0.76	0.1	April-September	No storage	3.8	D, R
D030884R	Big Sur River	0.007	Jan-Dec	0.5	0	No storage	No storage	2.5	D
D031117R	Big Sur River underflow	0.007	Jan-Dec	0.5	0.8	November-April	0	2.5	D
A030946	Big Sur River underflow	0.058	Jan-Dec	4.2	0	No storage	No storage	21.0	D, F, I
S014966	Big Sur River	null	Jan-Dec	Null	0	No storage	No storage	0	D, F, G
A027760	Pheneger Creek	0.008	Jan-Dec	0.34	0	No storage	No storage	1.7	D, F, I, R
A019156	Pheneger Creek	0.0116	Apr-Oct	0.7	0	No storage	No storage	0.7	D
A019154	Pheneger Creek	0.0125	Jan-Dec	0.7	0	No storage	No storage	0.8	D, I, S
A019029	Pheneger Creek	0.0239	Jan-Dec	1.4	0	No storage	No storage	1.4	D
A027086	Pheneger Creek	0.0057	Jan-Dec	0.16	0	No Storage	No Storage	0.8	D, I
A025573	Pheneger Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D, I
A020132	Juan Higuera Creek underflow	0.0046	Jan-Dec	0.30	0	No storage	No storage	1.5	D
A020347	Juan Higuera Creek	0.0124	Jan-Dec	0.73	0	No storage	No storage	3.7	D
A020133	S fork Juan Higuera Creek	0.0113	Jan-Dec	0.67	0	No storage	No storage	3.4	D
A020131	S. fork Juan Higuera Creek	0.0008	Jan-Dec	0.05	0	No storage	No storage	0.25	D
A009206	UNST. #330200008	0.0056	Jan-Dec	0.33	0	No storage	No storage	1.67	D
A014302	Pfeiffer Redwood Creek	0.0017	Jan-Dec	0.10	0	No storage	No storage	0.50	D
A008901	Pfeiffer Creek	0.0025	Jan-Dec	0.15	0	No storage	No storage	0.74	D
S015407	Big Sur River	0.27	Jan-Dec	6.72	0.9	Jan-Dec	0.9	33.6	D, R
A008094	UNST #330200989	0.05	Apr-Dec	2.97	0	No storage	No storage	5.95	D, I
A023152	UNST #330212009	0.05	Apr-Dec	2.97	0	No storage	No storage	5.95	I
A013078	Cold Spring #330204001	0.0010	Jan-Dec	0.06	0	No storage	No storage	0.30	D
F006373S	UNSP #330203009	0.0005	Jan-Dec	0.03	0	No storage	No storage	0.15	D
F011093S	UNSP #330204989	0.0003	Jan-Dec	0.02	0	No storage	No storage	0.10	D
F011094S	UNSP #330207989	0.0001	Jan-Dec	0.01	0	No storage	No storage	0.05	D
A021520	Pheneger Creek	0.007	Jan-Dec	0.42	0	No storage	No storage	2.08	D

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A023116	Phenegeer Creek	0.05	May-Oct	2.5	0	No storage	N ¹ o storage	2.5	1
A025573	Phenegeer Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D,1
A012176	Post Creek	0.05	Jan-Dec	3.62	0	No storage	No storage	18.1	D
A029840	UNSP trib. To Post Creek	0.06	Jan Dec	4	0	No storage	No storage	20	D,1
Totals:		0.854		40.43	1.8		0.9	163.34	

¹ September demand assumed to be 10 percent of annual total face value entitlements for year-long diversions

² October-March demand assumed to be 50 percent of annual total face value entitlements for year-long diversions

³ B-Mining, C-Milling, D-Domestic, E-Fire Protection, G-Dust Control, H-Fish Culture, I-Irrigation, J-Recreational, K-Incidental Power, L-Heat Protection, M-Municipal, N-Frost Protection, P-Power, R-Recreational, S-Stockwatering, T-Snow Making, W-Fish and Wildlife Protection and/or Enhancement, Z-Other.

APPENDIX A (continued)
Demand above POI 3

Case B (A or B)

Water Right ID	Source	Direct Diversion Rate (cfs)	Direct Diversion Season	Adjusted Direct Diversion Amount Sep 1-Sep 30 (af) ^{1,2}	Face Value Storage Amount (af)	Storage Season	Adjusted Storage Amount Oct. 1-Mar. 31 (af)	Cumulative Adjusted Diversion Amount Oct. 1-Mar. 31 (af) ^{4,6}	Purpose of Use Code ⁵
A030166 ³	Big Sur River underflow	5.84	Jan-Dec	163	0	No storage	No storage	269	I
A031432	Big Sur River underflow	0.077	Jan-Dec	5	0	No storage	No Storage	25.0	D,I
S015408	Big Sur River	0.05	Jan-Dec	0.76	0.1	April-September	No storage	3.8	D,R
D030884R	Big Sur River	0.007	Jan-Dec	0.5	0	No storage	No storage	2.5	D
D031117R	Big Sur River underflow	0.007	Jan-Dec	0.5	0.8	November-April	0.8	2.5	D
A030946	Big Sur River underflow	0.058	Jan-Dec	4.2	0	No storage	No storage	21.0	D,F,I
S014966	Big Sur River	null	Jan-Dec	Null	0	No storage	No storage	0	D,F,G
A027760	Pheneger Creek	0.008	Jan-Dec	0.34	0	No storage	No storage	1.7	D,F,I,R
A019156	Pheneger Creek	0.0116	Apr-Oct	0.7	0	No storage	No storage	0.7	D
A019154	Pheneger Creek	0.0125	Jan-Dec	0.7	0	No storage	No storage	0.8	D,I,S
A019029	Pheneger Creek	0.0239	Jan-Dec	1.4	0	No storage	No storage	1.4	D
A027086	Pheneger Creek	0.0057	Jan-Dec	0.16	0	No Storage	No Storage	0.8	D,I
A025573	Pheneger Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D,I
A020132	Juan Higuera Creek underflow	0.0046	Jan-Dec	0.30	0	No storage	No storage	1.5	D
A020347	Juan Higuera Creek	0.0124	Jan-Dec	0.73	0	No storage	No storage	3.7	D
A020133	S fork Juan Higuera Creek	0.0113	Jan-Dec	0.67	0	No storage	No storage	3.4	D
A020131	S. fork Juan Higuera Creek	0.0008	Jan-Dec	0.05	0	No storage	No storage	0.25	D
A009206	UNST. #330200008	0.0056	Jan-Dec	0.33	0	No storage	No storage	1.67	D
A013078	Cold Spring #33024001	0.0017	Jan-Dec	0.10	0	No storage	No storage	0.50	D
F006375S	UNSP #330203009	0.0025	Jan-Dec	0.15	0	No storage	No storage	0.74	D
F011093S	UNSP #330204989	0.27	Jan-Dec	6.72	0	No storage	No storage	33.6	D
F011094S	UNSP #330207989	0.05	Jan-Dec	2.97	0	No storage	No storage	5.95	D
A014302	Pfeiffer Redwood Creek	0.05	Jan-Dec	2.97	0	No storage	No storage	5.95	D
A008901	Pfeiffer Creek	0.0010	Jan-Dec	0.06	0	No storage	No storage	0.30	D
S015407	Big Sur River	0.0005	Jan-Dec	0.03	0.9	Jan-Dec	0.9	0.15	D,R
A008094	UNST #330200989	0.0003	Apr-Dec	0.02	0	No storage	No storage	0.10	D,I
A023152	UNST #330212009	0.0001	Apr-Dec	0.01	0	No storage	No storage	0.05	I
A021520	Pheneger Creek	0.007	Jan-Dec	0.42	0	No storage	No storage	2.08	D

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A023116	Phenege Creek	0.05	May-Oct	2.5	0	No storage	No storage	2.5	1
A025573	Phenege Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D,1
A012176	Post Creek	0.05	Jan-Dec	3.62	0	No storage	No storage	18.1	D
A029840	UNSP trib. To Post Creek	0.06	Jan Dec	4	0	No storage	No storage	20	D,1
Totals:		6.6939		203.43	1.8		0.9	432.34	

¹ September demand for A030166 assumed to be according to applicant's estimated irrigation diversion requirement as stated in the amended application

² September demand assumed to be 10 percent of annual total for all year-long diversions

³ This application is duplicated under ID S01432 and S01433 to the same applicant for the same diversion, only one diversion for 1615afa is considered here

⁴ October-March demand for year-long diversions assumed to be 50 percent of annual total

⁵ B-Mining, C-Milling, D-Domestic, E-Fire Protection, G-Dust Control, H-Fish Culture, I-Irrigation, J-Recreational, K-Industrial, L-Heat Protection, M-Municipal, N-Frost Protection, P-Power, R-W-Fish and Wildlife Protection and/or Enhancement, Z-Other.

⁶October-March demand for A030166 assumed to be according to applicant's estimated irrigation diversion requirement as stated in the amended application

APPENDIX A (continued)**Demand above POI 2****Cases A and B**

Water Right ID	Source	Direct Diversi on Rate (cfs)	Direct Diversion Season	Adjusted Direct Diversion Amount Sep 1-Sep 30 (af) ¹	Face Value Storage Amount (af)	Storage Season	Adjusted Storage Amount Oct. 1-Mar. 31 (af)	Cumulative Adjusted Diversion Amount Oct. 1-Mar. 31 (af) ²	Purpose of Use Code ³
S015408	Big Sur River	0.05	Jan-Dec	0.76	0.1	April-September	No storage	3.8	D, R
D030884R	Big Sur River	0.007	Jan-Dec	0.5	0	No storage	No storage	2.5	D
D031117R	Big Sur River underflow	0.007	Jan-Dec	0.5	0.8	November-April	0.8	2.5	D
A030946	Big Sur River underflow	0.058	Jan-Dec	4.2	0	No storage	No storage	21.0	D, F, I
S014966	Big Sur River	null	Jan-Dec	Null	0	No storage	No storage	0	D, F, G
A027760	Pheneger Creek	0.008	Jan-Dec	0.34	0	No storage	No storage	1.7	D, F, I, R
A019156	Pheneger Creek	0.0116	Apr-Oct	0.7	0	No storage	No storage	0.7	D
A019154	Pheneger Creek	0.0125	Jan-Dec	0.7	0	No storage	No storage	0.8	D, I, S
A019029	Pheneger Creek	0.0239	Jan-Dec	1.4	0	No storage	No storage	1.4	D
A027086	Pheneger Creek	0.0057	Jan-Dec	0.16	0	No Storage	No Storage	0.8	D, I
A025573	Pheneger Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D, I
A020132	Juan Higuera Creek underflow	0.0046	Jan-Dec	0.30	0	No storage	No storage	1.5	D
A020347	Juan Higuera Creek	0.0124	Jan-Dec	0.73	0	No storage	No storage	3.7	D
A020133	S fork Juan Higuera Creek	0.0113	Jan-Dec	0.67	0	No storage	No storage	3.4	D
A020131	S. fork Juan Higuera Creek	0.0008	Jan-Dec	0.05	0	No storage	No storage	0.25	D
A009206	UNST. #330200008	0.0056	Jan-Dec	0.33	0	No storage	No storage	1.67	D
A013078	Cold Spring #330204001	0.0017	Jan-Dec	0.10	0	No storage	No storage	0.50	D
F006373S	UNSP #330203009	0.0025	Jan-Dec	0.15	0	No storage	No storage	0.74	D
F011093S	UNSP #330204989	0.27	Jan-Dec	6.72	0	No storage	No storage	33.6	D
F011094S	UNSP #330207989	0.05	Jan-Dec	2.97	0	No storage	No storage	5.95	D
A014302	Pfeiffer Redwood Creek	0.05	Jan-Dec	2.97	0	No storage	No storage	5.95	D
A008901	Pfeiffer Creek	0.0010	Jan-Dec	0.06	0	No storage	No storage	0.30	D
S015407	Big Sur River	0.0005	Jan-Dec	0.03	0.9	Jan-Dec	0.9	0.15	D, R
A008094	UNST #330200989	0.0003	Apr-Dec	0.02	0	No storage	No storage	0.10	D, I
A023152	UNST #330212009	0.0001	Apr-Dec	0.01	0	No storage	No storage	0.05	I
A021520	Pheneger Creek	0.007	Jan-Dec	0.42	0	No storage	No storage	2.08	D
A023116	Pheneger Creek	0.05	May-Oct	2.5	0	No storage	No storage	2.5	I

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A025573	Phenege Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D,I
A012176	Post Creek	0.05	Jan-Dec	3.62	0	No storage	No storage	18.1	D
A029840	UNSP trib. To Post Creek	0.06	Jan Dec	4	0	No storage	No storage	20	D,I
Totals:		0.7769		35.43	1.8			138.34	

¹ September demand assumed to be 10 percent of annual total for year-long diversions

² October-March demand assumed to be 50 percent of annual total for year-long diversions

³ B-Mining, C-Milling, D-Domestic, E-Fire Protection, G-Dust Control, H-Fish Culture, I-Irrigation, J-Industrial, K-Incidental Power, L-Heat Protection, M-Municipal, N-Frost Protection, P-Power, R-Recreational, S-Stockwatering, T-Snow Making, W-Fish and Wildlife Protection and/or Enhancement, Z-Other.

APPENDIX B

APPENDIX A (continued)
Demand above POI 1

Cases A and B

Water Right ID	Source	Direct Diversions on Rate (cfs)	Direct Diversion Season	Adjusted Direct Diversion Amount Sep 1 - Sep 30 (af) ¹	Face Value Storage Amount (af)	Storage Season	Adjusted Storage Amount Oct. 1-Mar. 31 (af)	Cumulative Adjusted Diversion Amount Oct. 1-Mar. 31 (af) ²	Purpose of Use Code ³
A030946	Big Sur River underflow	0.058	Jan-Dec	4.2	0	No storage	No storage	21.0	D,F,I
S014966	Big Sur River	null	Jan-Dec	Null	0	No storage	No storage	0	D,F,G
A027760	Pheneger Creek	0.008	Jan-Dec	0.34	0	No storage	No storage	1.7	D,F,I,R
A019156	Pheneger Creek	0.0116	Apr-Oct	0.7	0	No storage	No storage	0.7	D
A019154	Pheneger Creek	0.0125	Jan-Dec	0.7	0	No storage	No storage	0.8	D,L,S
A019029	Pheneger Creek	0.0239	Jan-Dec	1.4	0	No storage	No storage	1.4	D
A027086	Pheneger Creek	0.0057	Jan-Dec	0.16	0	No Storage	No Storage	0.8	D,I
A025573	Pheneger Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D,I
A020132	Juan Higuera Creek underflow	0.0046	Jan-Dec	0.30	0	No storage	No storage	1.5	D
A020347	Juan Higuera Creek	0.0124	Jan-Dec	0.73	0	No storage	No storage	3.7	D
A020133	S fork Juan Higuera Creek	0.0113	Jan-Dec	0.67	0	No storage	No storage	3.4	D
A020131	S. fork Juan Higuera Creek	0.0008	Jan-Dec	0.05	0	No storage	No storage	0.25	D
A009206	UNST. #330200008	0.0056	Jan-Dec	0.33	0	No storage	No storage	1.67	D
A014302	Pfeiffer Redwood Creek	0.0017	Jan-Dec	0.10	0	No storage	No storage	0.50	D
A008901	Pfeiffer Creek	0.0025	Jan-Dec	0.15	0	No storage	No storage	0.74	D
S015407	Big Sur River	0.27	Jan-Dec	6.72	0.9	Jan-Dec	0.9	33.6	D,R
A008094	UNST #330200989	0.05	Apr-Dec	2.97	0	No storage	No storage	5.95	D,I
A023152	UNST #330212009	0.05	Apr-Dec	2.97	0	No storage	No storage	5.95	I
A013078	Cold Spring #330204001	0.0010	Jan-Dec	0.06	0	No storage	No storage	0.30	D
F006373S	UNSP #330203009	0.0005	Jan-Dec	0.03	0	No storage	No storage	0.15	D
F011093S	UNSP #330204989	0.0003	Jan-Dec	0.02	0	No storage	No storage	0.10	D
F011094S	UNSP #330207989	0.0001	Jan-Dec	0.01	0	No storage	No storage	0.05	D
A021520	Pheneger Creek	0.007	Jan-Dec	0.42	0	No storage	No storage	2.08	D
A023116	Pheneger Creek	0.05	May-Oct	2.5	0	No storage	No storage	2.5	I
A025573	Pheneger Creek	0.0077	Jan-Dec	0.26	0	No storage	No storage	1.3	D,I
A012176	Post Creek	0.05	Jan-Dec	3.62	0	No storage	No storage	18.1	D
A029840	UNSP trib. To Post Creek	0.06	Jan Dec	4	0	No storage	No storage	20	DI
Totals:		0.7129		33.67	0.9			129.54	

Appendix C. CNDDB List of Sensitive Animals and Plants that occur in Quadrangles Adjacent to Project Site

QUADNAME	ELM CODE	SCINAME	COMNAME	FED STATUS	CAL STATUS	CDFG	CNPS
Carmel Valley	AAAAAA01180	<i>Ambystoma californiense</i>	California tiger salamander	Threatened	None	SC	T
Carmel Valley	PDAST3L080	<i>Ericameria fasciculata</i>	Eastwood's goldenbush	None	None	SC	1B.1
Carmel Valley	PDAST660C2	<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	Carmel Valley malacothrix	None	None	SC	1B.2
Carmel Valley	PDBOR0V170	<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	None	None	SC	1B.2
Mt. Carmel	AAAAAA01180	<i>Ambystoma californiense</i>	California tiger salamander	Threatened	None	SC	T
Mt. Carmel	AAAAAA01180	<i>Ambystoma californiense</i>	California tiger salamander	Threatened	None	SC	1B.1
Mt. Carmel	ABPBXB0020	<i>Agelaius tricolor</i>	tricolored blackbird	None	None	SC	1B.2
Mt. Carmel	PDAST3L080	<i>Ericameria fasciculata</i>	Eastwood's goldenbush	None	None	SC	1B.2
Mt. Carmel	PDAST660C2	<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	Carmel Valley malacothrix	None	None	SC	1B.2
Mt. Carmel	PDBOR0V170	<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	None	None	SC	1B.2
Mt. Carmel	PDMAL0Q0B1	<i>Malacothamnus palmeri</i> var. <i>involucratus</i>	Carmel Valley bush-mallow	None	None	SC	1B.2
Partington Ridge	IICOL5E020	<i>Otioservus canus</i>	Pinnacles optioservus rifle beetle	None	None	SC	1B.3
Partington Ridge	NBMUS8Z010	<i>Dactryophyllum falcifolium</i>	tear drop moss	None	None	SC	1B.2
Partington Ridge	PDONA050L0	<i>Clarkia jolonensis</i>	Jolon clarkia	None	None	SC	1B.3
Partington Ridge	PDRUB0N0E3	<i>Galium californicum</i> ssp. <i>luciense</i>	Cone Peak bedstraw	None	None	SC	1B.3
Partington Ridge	PGPIN01030	<i>Abies bracteata</i>	bristlecone fir	None	None	SC	1B.3
Pfeiffer Point	IICOL4A010	<i>Coelus globosus</i>	globeose dune beetle	None	None	SC	1B.2
Pfeiffer Point	PDONA050L0	<i>Clarkia jolonensis</i>	Jolon clarkia	None	None	SC	1B.3
Pfeiffer Point	PGPIN01030	<i>Abies bracteata</i>	bristlecone fir	None	None	SC	1B.3
Point Sur	ABNDCC04030	<i>Oceanodroma homochroa</i>	ashy storm-petrel	None	None	SC	1B.2
Point Sur	ABNNB03031	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Threatened	None	SC	
Point Sur	ABNNN12010	<i>Fratercula cirrhata</i>	tufted puffin	None	None	SC	
Point Sur	AMAJF04010	<i>Taxidea taxus</i>	American badger	None	None	SC	
Point Sur	PDAST2E1Z1	<i>Cirsium occidentale</i> var. <i>compactum</i>	compact cobwebby thistle	None	None	SC	
Soberanes Point	ABNDCC04030	<i>Oceanodroma homochroa</i>	ashy storm-petrel	None	None	SC	
Soberanes Point	CTT37C20CA	Central Maritime Chaparral	Central Maritime Chaparral	None	None	SC	
Soberanes Point	CTT83130CA	Monterey Pine Forest	Monterey Pine Forest	None	None	SC	
Soberanes Point	NBMUS7L090	<i>Tortula californica</i>	Monterey screw moss	None	None	SC	
Soberanes Point	PDERI040J1	<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i>	Hooker's manzanita	None	None	SC	
Soberanes Point	PDONA050L0	<i>Clarkia jolonensis</i>	Jolon clarkia	None	None	SC	
Soberanes Point	PDPGN08470	<i>Eriogonum mortoni</i>	Pinnacles buckwheat	None	None	SC	
Soberanes Point	PDROS1J0W0	<i>Rosa pinetorum</i>	pine rose	None	None	SC	

APPENDIX C

Soberanes Point	PDSCR0J0P2	<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	seaside bird's-beak	1B.1
Soberanes Point	PGPIN040V0	<i>Pinus radiata</i>	Monterey pine	1B.1
Soberanes Point	PMORC1X070	<i>Piperia yadonii</i>	Yadon's rein orchid	1B.1
Ventana Cones	AAAAAF02032	<i>Taricha torosa torosa</i>	Coast Range newt	None
Ventana Cones	ABNKD06090	<i>Falco mexicanus</i>	prairie falcon	None
Ventana Cones	PDASTDU010	<i>Carlquistia muirii</i>	Muir's tarplant	None
Ventana Cones	PDRUB0N0E3	<i>Galium californicum</i> ssp. <i>luciense</i>	Cone Peak bedstraw	None
Ventana Cones	PDRUB0N0H0	<i>Galium clementis</i>	Santa Lucia bedstraw	None
Ventana Cones	PMLILOV070	<i>Fritillaria falcata</i>	talus fritillary	None
				1B.2
				1B.3
				1B.3
				1B.3
				SC
				SC



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June 10, 2008

Steve Herrera, Chief
Water Right Permitting Section
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Subject: **Compliance Plan for Application 30946: Diversion of Water from
Big Sur River by Clear Ridge Mutual Water Association**

Background

The referenced application is to divert up to 42 acre-feet of water from the Big Sur River through a 26-foot well tapping the underflow of the river. The Clear Ridge Mutual Water Association (Association) has proposed that the rate of diversion be restricted during periods of low flow in the river. Specifically, the Association has proposed that when the daily flow measured at USGS gage 11143000 in Pfeiffer-Big Sur State Park is equal to or less than 2 cubic feet per second (cfs) the maximum diversion rate through the well will be 5 gallons per minute (gpm) (0.011 cfs). When the measured flow at the gage is above 2 cfs and equal to or less than 3 cfs the maximum diversion rate through the well will be 10 gpm (0.02 cfs). When the measured flow at the gage is above 3 cfs and equal to or less than 4 cfs the maximum diversion rate through the well will be 15 gpm (0.03 cfs). When the measured flow at the gage is above 4 cfs and equal to or less than 5 cfs the maximum diversion rate through the well will be 20 gpm (0.04 cfs). When the measured flow at the gage is above 5 cfs the maximum diversion rate through the well will be 23 gpm (0.058 cfs), which is the maximum output of the currently installed pump.

Facilities to be Used for Compliance

Gage 11143000 is maintained and monitored by the United States Geological Survey (USGS). Real-time data are available for this station through an internet site: <http://waterdata.usgs.gov>. At real-time sites data typically are recorded at 15-60 minute intervals, stored onsite, and then transmitted to USGS offices every 1 to 4 hours, depending on the data relay technique used. Recording and

transmission times may be more frequent during critical events. Data from real-time sites are relayed to USGS offices via satellite, telephone, and/or radio and are available for viewing within minutes of arrival. The procedure for obtaining the data is to log on to the site and request that real-time stream flow data for gage 11143000 be provided. The site responds immediately with the mean stream flow for the most recent complete day and the day prior to that. The result of a data request made on 3/10/2008 is shown below.

Station Number	Station name	Daily mean stream-flow (ft³/s)	Daily mean stream-flow (ft³/s)	Change (ft³/s)
11143000	BIG SUR R NR BIG SUR CA	3/8	3/9	-6

The well pump in use at this facility is a 1 hp jet pump (Figure 1). The jet pump delivers water from the well to a 500-gallon tank adjacent to the well (Figure 2). A piston pump draws water from the 500-gallon tank and delivers it to a larger storage tank situated some 1200 feet higher. Float switches in both tanks turn the pumps on and off. The system proposed to effect compliance will control the discharge of the jet pump in the well to assure that the instantaneous pumping rate from the well conforms to the restrictions of the permit.

A flow meter installed on the well outlet pipe measures flow from the well (Figure 1). The meter includes a totalizer to tally cumulative water withdrawal. Instantaneous discharge rate is computed by measuring the time required to deliver a known volume of water e.g. 100 gallons or one complete revolution of the main dial.

The principal control device will be a Hayward 2-inch PVC manual diaphragm valve (Attachment 1) to be installed on the jet pump outlet upstream of the flow meter. Figure 1 has been annotated to indicate the proposed position for the diaphragm valve. The diaphragm valve can be manipulated to allow any rate of flow up to the maximum discharge of the pump (currently 23 gpm).

Procedures to be Followed

1. A representative from the Association will monitor records for stream gage 11143000 by logging on to the internet site <http://waterdata.usgs.gov>. This will be done at least monthly during the winter rainy season (December through March) and

weekly during the period of April through November. When flows at the gage reach 10 cfs and lower, gage monitoring will occur daily no later than 0600.

2. When the gage monitoring reveals that the river flow is within the range for which control is mandated (i.e. 5 cfs or less) the diaphragm valve will be adjusted to lower the pump discharge to the required level. Adjustments will be made no later than 0700 on days that it is required. The computation of instantaneous pump discharge will be made by measuring the time required for the pump to discharge 100 gallons. Table 1 shows minutes per 100 gallons for each of the flow rates that could be required.

Table 1. Schedule of Allowed Pumping Rates and Corresponding Minutes per 100 Gallons

Gaged River Flow (cfs)	Allowed Pump Discharge (gpm)	Minutes per 100 gallons (minutes:seconds)
<4 to 5	20	5:0
<3 to 4	15	6:40
<2 to 3	10	10:0
0 to 2	5	20:0

Monitoring and Reporting

The Association will maintain a log including, at a minimum, the following information:

Date and time of observation,
Most recent gage reading at Gage 11143000 (cfs),
Instantaneous well pump discharge rate (gpm),
Cumulative volume pumped (gallons).

This concludes the compliance plan and should you require any additional information, please contact me at (831) 426-9054.

Sincerely,


PETER HAASE, P.E.
Principal Engineer

cc: Carolyn Shearer, CMWC, Big Sur
John Gilchrist, Santa Cruz

FINAL MITIGATION MONITORING PLAN
Water Right Application 30946
Clear Ridge Mutual Water Association

This Mitigation Monitoring and Reporting Plan (MMRP) has been prepared in conformance with the California Environmental Quality Act (Public Resources Code § 21081.6). The MMRP has been developed based on the information and mitigation measures contained in the Initial Study/Mitigated Negative Declaration (IS/MND) for Water Right Application 30946. The MMRP lists mitigation measures recommended in the IS/MND for the proposed projects and specifies implementation and monitoring responsibilities. Pursuant to Public Resources Code section 21081.6(b), each of the mitigation measures identified in the MMRP will be included as enforceable permit terms in any permit authorizing construction, diversion, or use of water pursuant to Water Right Application 30946.

Generally, the State Water Resources Control Board, Division of Water Rights (Division) Permitting Section staff will monitor mitigation measures requiring pre-construction actions or submittals. Construction and post construction mitigation measures will be monitored by the Division Permitting Section, Enforcement Section, and/or Special Projects Section staff as specified in the attached matrix. Implementation of mitigation measures is the sole responsibility of the Permittee. Interim compliance with mitigation measures will be assessed through the Division's routine compliance monitoring activities. Long-term compliance will be assessed when the Permit is subject to Licensing, at which time the Permittee will be required to demonstrate compliance with permit terms. Non-compliance with mitigation measures may be addressed through the Division's ongoing enforcement program on an as needed basis.

All documents and other information that constitute the public record for this project shall be maintained by the Division and shall be available for public review at the following address:

State Water Resources Control Board
Division of Water Rights, 2nd Floor
1001 I Street
Sacramento, CA 95814

PROJECT DESCRIPTION:

Clear Ridge Mutual Water Association, Inc., (Association) serves 42 properties located on Pfeiffer Ridge and Clear Ridge in the Big Sur area of Monterey County. The Association's source of water is a 36-foot deep well situated approximately 35 feet from the southwest bank and 80 feet from the center line of the Big Sur River in Monterey County. From the time the well was originally developed in 1972, the Association's right to divert water was based on the theory that the water appropriated was percolating groundwater such that, under California law, a water right permit was not required. On March 9, 1999, the (State Water Resources Control Board (State Water Board), Division of Water Rights (Division) determined that the Association's well was extracting underflow of the Big Sur River and that a water right permit was in fact required.

As a consequence, on July 5, 1999, the Association filed water right Application 30946 with the Division. The Application, as amended, requests the right to appropriate up to a total of 42 acre feet per annum (afa) at a rate not to exceed 0.058 cubic feet per second (cfs), during the season from January 1 through December 31, from Big Sur Underflow, tributary to the Pacific

FINAL MITIGATION MONITORING PLAN
Water Right Application 30946
Clear Ridge Mutual Water Association

Ocean. Prior to amendment, the Application had requested a total of 140 afa. The proposed purposes of use are domestic and fire protection.

The Association service area is both within and outside the watershed area of the Big Sur River. Residences west of Pfeiffer Ridge and along Clear Ridge are in drainage basins that empty into Sycamore Canyon or drain directly to the Pacific Ocean. Seven Association properties east of Pfeiffer Ridge are within the Big Sur River watershed. No new water facility construction is proposed as part of this project. The application seeks to recognize a water appropriation system in operation since 1972 which now serves 38 residences. Four additional parcels within the service area are vacant although three have existing water meters. Up to 4 new residences could be added, and the system could serve property upgrades (caretaker units, vacation homes converted to full time residences).

Application 30946 Mitigation Monitoring and Reporting Matrix

APPENDIX E

Mitigation Measure	Implementation	Timing	Monitoring /Enforcement
Hydrology and Water Quality			
<ul style="list-style-type: none"> Other Agency Permits. Permittee shall obtain all necessary federal (including United States Army Corps of Engineers Section 404), state and local agency permits required by other agencies prior to construction and diversion of water. Copies of such permits and approvals shall be forwarded to the Chief of the Division of Water Rights. 			
Biological Resources	<p>Quantity, Direct Diversion. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a maximum instantaneous rate of 0.058 cubic foot per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 42 acre-feet per year.</p> <p>Fish and Wildlife Bypass. The rate of diversion shall be restricted during low Big Sur River flows to less than 1% of the gauged flow measured by the United States Geological Survey stream gauge 11143000 located in Pfeiffer-Big Sur State Park, in accordance with the Application A030946 flow bypass compliance plan dated June 10, 2008 on file with the Division. When the gauged flow is equal to or below 3 cfs, the entire flow of the Big Sur River will be bypassed and no water diverted under this permit. Permittee shall also limit diversions as follows:</p> <ul style="list-style-type: none"> When the gauged flow is greater than 3 cfs and less than or equal to 4 cfs, the diversion shall not exceed a maximum 24 hour average rate of 0.03 cfs. When the gauged flow is greater than 4 cfs and less than or equal to 5 cfs, the diversion shall not exceed a maximum 24 hour average rate of 0.04 cfs. When the gauged flow is greater than 5 cfs and less than or equal to 6 cfs, the diversion shall not exceed a maximum 24 hour average rate of 0.05 cfs. When the gauged flow is 6 cfs and greater, the well diversion rate will be the pump's maximum capacity of 0.058 cfs. 		<p>See Compliance Plan dated June 10, 2008.</p>

Application 30946 Mitigation Monitoring and Reporting Matrix

APPENDIX E

Mitigation Measure	Implementation	Timing	Monitoring /Enforcement
<ul style="list-style-type: none"> Measuring Devices-Direct Diversion. Permittee shall install and maintain devices satisfactory to the Division to measure the instantaneous rate of diversion and cumulative quantity of water diverted under this permit. A record of such measurements shall be maintained by the Permittee, and made available to interested parties upon reasonable request. This flow and diversion data shall be maintained for the life of the project and submitted to the Division with the Progress Report by Permittee and to the California Department of Fish and Game upon reasonable request. Reserved Jurisdiction. The State Water Board reserves jurisdiction over this permit to modify, delete, or add minimum flow requirements or related criteria for the protection of fish and wildlife and the maintenance of recreation in the Big Sur River should (1) additional fishery studies be conducted in the Big Sur River, or (2) unforeseen adverse impacts occur to the fishery or recreation in the Big Sur River. Action by the Board will be taken only after notice to interested parties and opportunity for hearing. Protection of Instream Resources. To protect instream resources, any and all diversion shall occur from the existing subterranean well. There shall be no direct diversion from surface water flow of the Big Sur River under the exercise of any basis of right. Any device or contrivance which prevents, impedes, or tends to prevent or impede the passage of aquatic resources upstream or downstream shall be prohibited as a means to divert or store water. Access to Project. Permittee shall allow representatives of the Division and other parties, as may be authorized from time to time by the Division, reasonable access to project works to determine compliance with the terms of this permit. 			

Application 30946 Mitigation Monitoring and Reporting Matrix

APPENDIX E

Mitigation Measure	Implementation	Timing	Monitoring /Enforcement
<p>Measuring Device for Bypass. Permittee shall document Big Sur River flows to meet bypass requirements by monitoring USGS Stream Gage #1114300 in Pfeiffer-Big Sur State Park. If this gage is rendered inoperable, permittee shall be responsible for repair and maintenance of said gage unless/until another agency or party accepts responsibility. Permittee shall implement all provisions of the Application A030946 flow bypass compliance plan dated June 10, 2008 on file with the Division.</p> <ul style="list-style-type: none"> • Endangered Species Protection. This permit does not authorize any act which results in the taking of a threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit. 			
<p>Noise</p> <ul style="list-style-type: none"> • Noise Reduction. In order to reduce noise impacts, the pumps and pump house shall be insulated with noise reduction materials within 120 days of permit issuance. 		120 days from permit issuance.	

Application 30946 Mitigation Monitoring and Reporting Matrix

APPENDIX E

Mitigation Measure	Implementation	Timing	Monitoring /Enforcement
Land Use and Planning			
Cultural Resources <ul style="list-style-type: none"> • See Other Agency Permits term. 	<p>Cultural Resources. Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and a professional archeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Deputy Director for Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director for Water Rights.</p> <p>Human Remains. If human remains are encountered, then the Applicant shall comply with Section 15064.5 (e) (1) of the CEQA Guidelines and the Health and Safety Code Section 7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the county coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the Native American Heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance, in the vicinity of the find, shall not resume until the process detailed under Section 15064.5 (e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights.</p>		